

SPECweb99_SSL Result

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Hewlett-Packard: HP Integrity server rx2600
Zeus Technology Limited: Zeus 4.2r2

SPECweb99_SSL =1000

Test Date: Jul-2003
Tester: Hewlett-Packard Company

Hardware Avail: Jul-2003 OS Avail: Sep-2003 HTTPS Software Avail: Mar-2003 Sup. Software Avail: Sep-2003 SPEC license #: 3

Hardware

Vendor: Hewlett-Packard
Model: HP Integrity server rx2600
Processor: 1.5 GHz Intel Itanium 2 6M
Processors: 1 core, 1 chip, 1 core/chip
Primary Cache: 16KBI+16KBD on chip
Secondary Cache: 256KB unified on chip
Other Cache: 6144KB unified on chip
Memory: 12 GB (12x1GB)
Disk Subsystem: 3x36GB (15K RPM)
Disk Controllers: SCSI C896 UW SE (internal)
Other Hardware: 1xAlteon 180e Switches

Software

Operating System: HP-UX 11i v2
File System: See SUT Notes
Other Software: B3901BA HP C/ANSI C

HTTPS Software

Vendor: Zeus Technology Limited
HTTPS Software: Zeus 4.2r2
API: ISAPI
Server Cache: None
Log Mode: Binary Log Format

Test Sponsor

Test Date: Jul-2003
Tested By: Hewlett-Packard Company
SPEC License: 3

Network

of Controllers: 1
Network Controllers: HP A6847A PCI Gigabit Ethernet
of Nets: 1
Type of Nets: Gigabit Ethernet
Network Speed: 1 Gb/s
MSL (sec): 30 (Non RFC1122)
Time-Wait (sec): 60 (Non RFC1122)
MTU: 1500

Clients

of Clients: 4
Model: HP 9000/A500-5X
Processor: 550 Mhz PA-8600
of Processors: 2
Memory: 4 GB
Network Controller: HP A4926A Gigabit Ethernet
Operating System: HP-UX 11i
Compiler: B3901BA B.11.11.04 HP C/ANSI C

Notes/Tuning Information

SUT Notes

1 (36 GB) disk with vxfs used for OS
1 (36 GB) disk with hfs used for the file_set
1 (36 GB) disk with hfs with largefiles, behind used for logs
Bound each Zeus instance to the processor corresponding to its NIC
Processor binding is performed by: mpsched -c cpu# -p pid
Set page size attribute for zeus.web, zeus.cgi binaries and zeus.cgi in zeus-kit
chattr +pd 64k +pi 64k zeus.cgi
chattr +pd 64M +pi 64M zeus.web

Operating System Notes

HP-UX Tunable Parameters:
dbc_max_pct=25 Max Buffer Cache Size as Percent of RAM (50)
dbc_min_pct=25 Min bufer Cache Size as Percent of RAM (5)
maxfiles=60000 Soft File Limit per Process (60)
maxfiles_lim=60000 Hard File Limit per Process (1024)
nfile=120000 Max number of open files (790)
ninode=120000 Max number of inodes (444)
tphashsz=16384 Relative Scaling Factor for TCP & IP Int. Tables(2048)
vps_ceiling=4096 Max System selected page size [KB] (16)
vps_pagesize=64 Default User page size [KB] (4)
fs_async=1 Enables asynchronous writes of file-system data structures Boolean (0)
vxfs_ifree_timelag=3600000 VxFS Free Inode minimum existence time (0)
scsi_max_qdepth=64 Maximum number of concurrent requests to a SCSI device (8)
create_fastlinks=1 Enables storage of symbolic links in HFS inode structures (Boolean) (0)
maxdsiz_64bit 274877906944 Maximum size of the data segment of a 64-bit process (bytes) (4294967296)

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Notes/Tuning Information (Continued)

HTTPS Software Notes

Zeus Global Parameters in global.cfg:
tuning!cache_files 356750
tuning!cache_max_bytes 0
tuning!cache_small_file 0
tuning!cache_large_file 1048576
tuning!cache_stat_expire 86400
tuning!cache_flush_interval 86400
tuning!listen_queue_size 8192
tuning!multiple_accept yes
tuning!so_rbuff_size 0
tuning!so_wbuff_size 1048576
tuning!cbuff_size 65536
tuning!keepalive yes
tuning!keepalive_timeout 1200
tuning!keepalive_max -1
tuning!timeout 600
tuning!unique_bind yes
tuning!bind_any no
tuning!sendfile no
tuning!modules!cgi!cbuff_size 1048576
tuning!modules!cgi!cleansize 0
tuning!ssl_keepalive yes
tuning!ssl_sessioncache_size 5011
tuning!ssl_sessioncache_expiry 120
tuning!ssl_diskcache no
tuning!softservers no
tuning!use_poll no
tuning!modules!stats!enabled no
tuning!modules!nsapi!enabled no
tuning!modules!isapi!enabled no
tuning!cache_cooling_time 0
tuning!maxaccept 2048
Zeus runningsite configuration:
modules!security!enabled yes
modules!cgi!enabled yes
modules!isapi!enabled yes

HTTP API Notes

Zeus ISAPI interface used
Zeus PEPP Toolkit(0.8) used for SPECweb99_SSL dynamic content
./Configure --sendfile=no --checkconfig=yes --locking=semop --ssl=yes --64bit=yes
compiled with HP C/ANSI C developers Bundle (B3901BA)
CFLAGS=+Ofaster +DD64 +DSitanium2
LDFLAGS=+DSitanium2,+pd,64k,+pi,64k

Network Notes

Networking Tunable Parameters:
tcp_xmit_hiwater_def=2000000 Max unsent data triggers flow control(32768)
tcp_conn_request_max=2048 Max outstanding connection reqs (20)
socket_caching_tcp=4096 Controls socket caching for TCP sockets (512)

Gigabit Tunable Parameters:

send_max_bufs=128 Number of sending buffers consumed to trigger interrupt (16)
recv_max_bufs=128 Number of receiving buffers consumed to trigger interrupt (16)
recv_coal_ticks=12000 Number of ticks to wait to trigger interrupt (0)

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Notes/Tuning Information (Continued)

Network Notes (Continued)

send_coal_ticks=5000 Number of ticks to wait to trigger interrupt (0)

Client Notes

Client code generated with ./configure --enable-posix-threads

HP-UX Tunable Parameters:

max_thread_proc=800 Number of threads per process (64)

maxusers=256 Value of MAXUSERS macro (32)

ncallout=5000 Increase number of pending timeouts

nkthread=8000 Maximum number of system-wide threads (499)

ninode=5000 Maximum number of inodes (444)

nfile=4096 Maximum number of open files (790)

maxswapchunks=2048 Maximum number of swap chunks (256)

Other Notes

Tuning Disclosure: HP-20030626.txt

Dynamic API: HP-20020723.-API.tar.gz